

NEW STATE AND COUNTY RECORDS FOR MOSQUITOES IN WEST VIRGINIA¹

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ABSTRACT. During 1978, mosquitoes were collected in 38 of West Virginia's 55 counties. Two new state records, *Aedes cinereus* and *Ae*

sollicitans and 95 new county records for species are reported. The total number of species known for West Virginia now stands at 27.

Data on mosquito distribution in West Virginia remain sparse. In their recent study, Amrine and Butler (1978) listed 24 species for the state. During 1978, mosquitoes were collected from 38 of West Virginia's 55 counties between April 24 and December 19. Three new state records and 96 new county records for 20 species are presented.

For each species listed, information is included on county, locality, collection date, collector, stage and person making the determinations. All specimens are deposited in the West Virginia University collection. Most samples are represented both by preserved larvae and reared adults.

The species are listed alphabetically without regard to subgeneric classification.

ABBREVIATIONS USED

JA —J. Amrine
LB —L. Butler
NF —N. Ferguson
JH —J. Heaps
PJ —P. Jarrett, Student, WVU
DP —D. Patch
PS —P. Swope
SF —State Forest
SP —State Park
USFS—U. S. Forest Service

Aedes (Ochlerotatus) atropalpus (Coquillett)
FAYETTE, Rt. 19 at New River

Bridge, 2-IX-78, JA, larvae, JA. NICHOLAS, Meadow River at Nallen, 9-IX-78, LB, larvae, LB.

Ae. (Och.) canadensis (Theobald)

LINCOLN, Big Ugly Publ. Hunt. Area, 2-VIII-78, LB, larvae, LB. McDOWELL, Panther S.F., 15-V-78, LB and DP, larvae, LB. MINGO, Dingess, 16-V-78, LB and DP, larvae, DP. POCAHONTAS, Rt. 39, 0.4 mi. NW Rimel, 26-VIII-78, LB, adult female, LB. WYOMING, Baileyville, 16-V-78, LB and DP, larvae, LB.

Ae. (Aedes) cinereus Meigen

HAMPSHIRE, Ice Mt., 3-VI-78, LB and DP, biting females, LB. LOGAN, Mallory, 16-V-78, LB and DP, larvae, LB. POCHONTAS, Rt. 39, 0.4 mi. NW Rimel, 15-VIII-78, JH, larvae, JH. PRESTON, Arthurdale, 24-VIII-78, PS, adult male, JA. RANDOLPH, Rt. 33 near Gladly Fork, 2-VI-78, LB and DP, larvae, LB.

This species, not previously taken in West Virginia, was found to be widely distributed. Larvae generally were collected in small woodland swamps; the Logan county specimens were from an open cattail-filled pool. The Preston County adult was caught in a N.J. light trap.

Ae. (Och.) sollicitans (Walker)

PRESTON, Arthurdale, 14-VIII-78, PS, male caught at light, JA.

This culicid was not previously recorded from West Virginia. The collection site is in low-lying farmland adjacent to Decker's Creek. Nearby are ponds, reservoirs and small streams and pools contaminated by acid mine water.

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Ae. (Och.) sticticus (Meigen)

MASON, McClintic Wildlife Station, 26-V-78, LB, biting females, LB.

Ae. (Finlaya) triseriatus (Say)

BARBOUR, Belington, 2-VI-78, LB and DP, larvae, LB. FAYETTE, Rt. 19 at New River Bridge, 2-IX-78, JA, larvae, JA. GRANT, USFS Road #74, 3-VI-78, LB and DP, larvae, LB. HARDY, 1.5 mi. S. High Knob, 3-V-78, LB and DP, larvae, LB. KANAWHA, Elkview, 25-VIII-78, LB, adult female, LB. MASON, Chief Cornstalk Publ. Hunt. Area, 2-VIII-78, LB, adult female, LB. MORGAN, Cacapon S. P., 8-VIII-78, LB, biting female, LB. RALEIGH, Eccles, 14-VI-78, LB, larvae, LB. TUCKER, Rt. 219 at Pierce, 6-VII-78, LB and DP, larvae, DP. WAYNE, 1 mi. N. Ferguson, 17-V-78, LB and DP, larvae, DP.

The Fayette County larvae were collected in rock holes along the New River; all other larvae were taken from water trapped in tires. The Kanawha adult was found resting in a culvert and the Mason adult was collected in an outhouse.

Ae. (Och.) trivittatus (Coquillett)

BRAXTON, Kanawha Run at Sutton Lake, 16-VIII-78, LB, biting female, LB. PRESTON, Arthurdale, 14-VIII-78, PS, male in N.J. trap, JA. WETZEL, Lewis Wetzel Publ. Hunt. Area, 3-VII-78, LB, biting female, LB.

Ae. (Aedimorphus) vexans (Meigen)

CABELL, Milton, 17-V-78, LB and DP, larvae, DP. DODDRIDGE, West Union, 26-V-78, LB, larvae, LB. HAMPSHIRE, 5-VIII-78, PJ, adult female, LB. LINCOLN, Big Ugly Publ. Hunt. Area, 2-VIII-78, LB, larvae and biting females, LB. LOGAN, Mallory, 16-V-78, LB and DP, larvae, DP. MASON, McClintic Wildlife Station, 26-V-78, LB, larvae, DP. MINGO, Dingess, 16-V-78, LB and DP, larvae, DP. NICHOLAS, Summersville, 15-V-78, LB and DP, larvae, LB. POCAHONTAS, Rt. 39, 0.4 mi. NW Rimel, LB, larvae, LB. PRESTON, Arthurdale, 14-VIII-78, PS, female at

light, JA. RALEIGH, Glen Daniel, 14-VI-78, LB, larvae, LB. RANDOLPH, Sinks of Gandy, 5-VII-78, LB and DP, larvae, LB. TUCKER, Canaan Valley, 6-VII-78, LB and DP, larvae, LB. WAYNE, 4 mi. N. Dunlow, 17-V-78, LB and DP, adults, pupae, DP. WYOMING, Baileyville, 15-V-78, LB and DP, larvae and pupae, DP.

Anopheles (Anopheles) punctipennis (Say)

BOONE, Fork Creek Publ. Hunt. Area, 14-VI-78, LB, larvae, LB. BRAXTON, Kanawha Run at Sutton Lake, 27-V-78, LB, biting females, LB. FAYETTE, Rt. 19 at New River Bridge, 2-IX-78, JA, larvae in rock holes, JA. GILMER, Stumptown, 27-V-78, LB, larvae, DP, HARDY, 3 mi. N. Old Fields, 3-VI-78, LB and DP, larvae, DP. LINCOLN, Big Ugly Publ. Hunt. Area, 2-VIII-78, LB, larvae, LB. MASON, McClintic Wildlife Station, 10-VIII-78, LB, adults in N.J. trap, LB. MORGAN, Cacapon S. P., 8-VIII-78, LB, larvae, LB. ROANE, 4 mi. N. Spencer, 27-V-78, LB, larvae, DP. RITCHIE, North Bend S. P., 15-IX-78, LB, biting adults, LB. UPSHUR, French Creek, 9-IX-78, LB, larvae, LB.

An. (Ano.) quadrimaculatus Say

PRESTON, Arthurdale, 3-IX-78, PS, biting female, JA.

Coquillettidia (Coquillettidia) perturbans (Walker)

MASON, McClintic Wildlife Station, 7-VIII-78, LB, adult females in N.J. trap, LB.

This species appears to be relatively abundant at the Mason County site since numerous adults were trapped throughout August, 1978.

Culex (Culex) pipiens Linnaeus

BOONE, Bob White, 26-VIII-78, LB, larvae, LB. GREENBRIER, White Sulphur Springs, 26-VIII-78, LB, larvae, LB. RALEIGH, Beckley, NF, adult male, JA.

Cx. (Cx.) restuans Theobald

BARBOUR, Junior, 3-VI-78, LB and DP, larvae, LB. BERKELEY, Martinsburg, 17-VI-78, LB, larvae, LB. BOONE, Barrett, 14-VI-78, LB, larvae,

LB. CALHOUN, Millstone, 27-V-78, LB, larvae, LB. GRANT, USFS Road #74, LB and DP, larvae, LB. HAMP-SHIRE, Purgitsville, 3-VI-78, LB and DP, larvae, LB. HARDY, 3 mi. N. Old Fields, 3-VI-78, LB and DP, larvae, LB. LEWIS, Walkersville, 28-V-78, LB, larvae, LB. MASON, Graham, 29-V-78, LB, larvae, LB. MINERAL, Burlington, 4-VI-78, LB and DP, larvae, LB. MINGO, Dingess, 16-V-78, LB and DP, larvae, LB. MORGAN, 4 mi. N. Cacapon S. P., LB, larvae, LB. NICHOLAS, Nallen, 9-IX-78, LB, larvae, LB. PENDLETON, USFS Road #74, 3-VI-78, LB and DP, larvae, LB. PRESTON, Aurora, 4-VI-78, LB and DP, larvae, LB. RALEIGH, Beckley, 1-VIII-78, NF, adult males, JA. RITCHIE, North Bend S. P., 15-IX-78, LB, larvae, LB. ROANE, 4 mi. N. Spencer, 27-V-78, LB, larvae, LB. WOOD, Mountwood, 26-V-78, LB, larvae, LB.

Larvae were taken from a wide variety of situations including water filled ditches and tire tracks, small ponds and temporary pools in fields and wooded areas. Eleven of the 25 *Cx. restuans* larvae samples collected in 1978 were from water in tires.

Cx. (Cx.) salinarius Coquillett
PRESTON, Arthurdale, 24-VIII-78, PS, adult male in N.J. trap, JA.

Cx. (Neoculex) territans Walker
BOONE, Fork Creek Publ. Hunt. Area, 17-VI-78, LB, larvae, LB. CABELL, Milton, 17-V-78, LB and DP, larvae, LB. CALHOUN, 4 mi. E. Millstone, 27-V-78, LB, larvae, LB. FAYETTE, Babcock S. P., 9-IX-78, LB, larvae, LB. LINCOLN, Big Ugly Publ. Hunt. Area, 2-VIII-78, LB, larvae, LB. LOGAN, Mallory, 16-V-78, LB and DP, larvae, LB. MASON, Graham, 27-V-78, LB, larvae, LB. MORGAN, Cacapon S. P., 16-VI-78, LB, larvae, LB. NICHOLAS, Nallen, 9-IX-78, LB, larvae, LB. RANDOLPH, Norton, 9-IX-78, LB, larvae, LB. RITCHIE, North Bend S. P., 15-IX-78, LB, larvae, LB. UPSHUR, French Creek, 9-IX-78, LB, larvae, LB.

WAYNE, Cabwaylingo S. F., 17-V-78, LB and DP, larvae and pupae, DP. WYOMING, Baileyville, 16-V-78, LB and DP, larvae, LB.

Larvae were taken from small ponds, sedge and cattail-filled marshes, temporary ground pools and ditches. Two samples were collected from tires and one sample from rock holes.

Psorophora (Psorophora) ciliata (Fabricius)
LINCOLN, Big Ugly Publ. Hunt. Area, 26-VIII-78, LB, female biting at 8:00 a.m., LB. MONONGALIA, Morgantown, 10-VIII-78, JH, biting female, JH. PRESTON, Arthurdale, 8-VIII-78, PS, adult male, JA.

Ps. (Grahamia) columbiae (Dyar and Knab)
MASON, McClintic Wildlife Station, 26-V-78, LB, larva in water-fowl pond, LB.

Ps. (Janthinosoma) ferox (Humbolt)
POCAHONTAS, Rt. 39, 0.4 mi. NW Rimel, LB, biting female, LB.

Uranotaenia sapphirina (Osten Sacken)
MASON, McClintic Wildlife Station, 4-VIII-78, LB, adult females in N.J. trap, LB.

A good series of females was collected at this site in the N.J. trap throughout August, 1978.

West Virginia is generally not considered to have severe mosquito problems. The state's topography is such that extensive breeding areas are minimal. No natural lakes or ponds are found within the state except those formed by beaver dams. However, numerous large lakes for recreation or flood control have been constructed, and more than 15,000 farm ponds now exist (Core 1966). Because of the high rainfall in most years, temporary breeding areas are common throughout the state.

Localities within West Virginia where mosquito populations are sufficiently high to be considered pestiferous are generally in more remote areas often in wooded recreation sites. Extensive portions of the state are included in the National Forest system and West Virginia's Department of Natural Resources main-

tains numerous state parks, forests and public hunting and fishing areas. A notable example of one of these problem areas is the McClintic Wildlife Station in Mason County. Currently, 36 ponds are maintained for waterfowl and year-round fishing. Ten species of mosquitoes were taken at the station in the summer of 1978.

Tree hole and container breeding mosquitoes often become locally abundant. During this study, water caught in tires was found to contain impressive numbers of larvae. The following species were taken in water samples from tires at 17 localities around West Virginia: *Ae. triseriatus* in 8 localities, *Cx. pipiens* in 3 localities, *Cx. restuans* in 10 localities and *Cx. territans* in 2 localities. In the vicinity of service stations, tire recapping establishments, and junkyards where tires were allowed to accumulate more than a few weeks, pestiferous numbers of biting females were observed.

In addition to the more localized problem areas, the topography of the entire Ohio River lowland region of the state is

conducive to buildup of mosquitoes, particularly in wet summers. As this region of West Virginia is also relatively heavily populated, mosquito populations should be closely monitored and surveillance for arbovirus activity should be initiated.

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